

CLAIMS

1. A power converter, comprising:

a series transformer with its primary winding connected in series with a line;

multiple array transformers connected in series with the secondary winding of this series transformer;

normally-on switches connected in series with the ends of each of the primary windings of the array transformers;

normally-off current bypass devices connected in parallel with the series connections of each of the primary windings of the array transformers and the switches at their ends;

AC-DC converter units having their AC sides severally connected to each of the secondary windings of the array transformers; and

mutually independent DC circuits severally connected to the DC sides of the AC-DC converter units,

wherein by turning on the current bypass device of the primary winding of a specified array transformer and turning off the switches at the ends of that primary winding it is possible to isolate the specified array transformer and the AC-DC converter unit connected to it.

2. A power converter according to claim 1, wherein the AC-DC converter units connected to each of the secondary

winding of each of the array transformers on their AC sides are plural and on the DC sides of the plurality of AC-DC converter units of the secondary winding of each of the array transformers is provided a common DC circuit, and the common DC circuit is independent of the common DC circuits provided on the DC sides of the plurality of AC-DC converter units connected to the secondary windings of the other array transformers.

3. A power converter according to claim 1, wherein the array transformers are each made up of a plurality of transformers connected in series.

4. A power converter, comprising:

multiple array transformers having their primary windings connected to a line in series;

normally-on switches connected respectively in series with the ends of the primary windings of the array transformers;

normally-off first current bypass devices connected in parallel with the series connections of the primary windings of the array transformers and the switches connected to their ends;

AC-DC converter units having their AC sides respectively connected to each of the secondary windings of the array transformers;

mutually independent DC circuits connected respectively to the DC sides of each of the AC-DC converter units; and

a normally-off second current bypass device connected in parallel with all of the series-connected array transformers,

wherein by turning on the first current bypass device of the primary winding of a specified array transformer and turning off the switches at the ends of that primary winding it is possible to isolate the specified array transformer and the AC-DC converter unit connected thereto.

5. A power converter according to claim 4, wherein the AC-DC converter units connected to each of the secondary winding of each of the array transformers on their AC sides are plural and on the DC sides of the plurality of AC-DC converter units of the secondary winding of each of the array transformers is provided a common DC circuit, and the common DC circuit is independent of the common DC circuits provided on the DC sides of the plurality of AC-DC converter units connected to the secondary windings of the other array transformers.

6. A power converter according to claim 4, wherein the array transformers are each made up of a plurality of transformers connected in series.